REMARKS

Claims 1-20 are currently pending in the application. By this amendment, claim 20 is amended for the Examiner's consideration. The above amendments do not add new matter to the application and are fully supported by the specification. For example, support for the amendments is provided in the claims as originally filed and at page 13 of the specification. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

Information Disclosure Statement

Applicants note with appreciation the Examiner's indication that the Information Disclosure Statement filed June 26, 2003 has been considered. Applicants note, however, that the Examiner has failed to initial one document (JP 9-114856) on the PTO-1449 Form. Applicants respectfully request that the Examiner indicate consideration of this document by providing an initialed copy of the PTO-1449 Form in the next Official communication.

35 U.S.C. §101 Rejection

Claim 20 was rejected under 35 U.S.C. §101 paragraph. This rejection is respectfully traversed.

The Examiner asserts that claim 20 is directed to non-statutory subject matter because of use of the phrase "a computer usable medium". Applicants respectfully disagree. However, by this amendment, claim 20 is amended to recite, *inter alia*, a

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computer program product comprising a computer usable medium having readable program code stored on the medium.

Applicants submit that claim 20 is directed to statutory subject matter because it recites functional descriptive material stored on a computer usable medium. The Examiner's attention is directed to MPEP §2106, which provides guidance for the examination of claims comprising a computer program product, and which states:

> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 158384, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (**claim to data structure stored on a computer readable medium** that increases computer efficiency held statutory) ... (emphasis added)

Thus, claim 20 is directed to statutory subject matter.

Accordingly, Applicants respectfully request that the rejection over claim 20 be withdrawn.

35 U.S.C. §102 Rejection

Claims 1-5, 10-14 and 18 were rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent Application Publication No. 2001/0018684 issued to Mild et al. ("Mild"). This rejection is respectfully traversed.

To anticipate a claim, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. MPEP

§2131. Applicants submit that Mild does not show each and every feature of the claimed invention.

Independent Claims 1 and 13

The present invention generally relates to database access control, and more particularly, to representing and controlling views of data in non-relational databases to reduce index size and increase overall performance. More specifically, claim 1 recites, in pertinent part:

> creating a master view having a master view index referencing the data;
> creating a subordinate view of the master view having a subordinate view index referencing a subset of said master view index, where the subordinate view defines accessible portions of the data and the subordinate view index is linked to a subset of the master view index;

Claim 13 recites, in pertinent part:

> creating at least one subordinate view having a subordinate index referencing a subset of a master index of at least one master view;
> creating a subordinate view index map associated with the at least one subordinate view when accessing the hierarchical data; and
> accessing the at least a portion of hierarchical data by using the subordinate view index map,

The Examiner asserts that Mild discloses these features in paragraphs 0010, 0022, and 0023. Applicants respectfully disagree

Mild discloses a system and method for accessing non-relational data by relational access methods. In Mild, the non-relational data structure is mapped into a

relational data structure having columns and rows. The maps are stored in a repository. Moreover, views are created which include a subset of the columns defined in a map (see paragraph 0010). Implementation of the map (FIG. 4C) and a view (FIG. 4D) allows a user to access the non-relational data via standardized relational database commands, such as SQL (paragraphs 0011, 0012).

Applicants agree that the map (FIG. 4C) may constitute a master view, and the view (FIG. 4D) may constitute a subordinate view. Applicants submit, however, that Mild does not disclose creating a master view index and a subordinate view index referencing a subset of said master view index, where the subordinate view index is linked to a subset of the master view index, as recited in claim 1. Moreover, Mild does not disclose creating at least one subordinate view having a subordinate index referencing a subset of a master index of at least one master view, creating a subordinate view index map associated with the at least one subordinate view and accessing the at least a portion of hierarchical data by using the subordinate view index map, as recited in claim 13. To the contrary, Mild does not discuss an index associated with the map or an index associated with the view, much less a subordinate view index that is linked to a subset of the master view index, as recited in the claim 1, or a subordinate index, master index and, subordinate view index map, as recited in claim 13. Therefore, Mild does not contain each and every element of the claims, and does not anticipate the claimed invention.

<u>Dependent Claims 2-5, 10-12, 14, and 18</u>

Applicants respectfully submit that claims 2-5, 10-12, 14, and 18 depend from an allowable independent claim, and are allowable based upon the allowability of the independent claim.

Accordingly, Applicants respectfully request that the rejection over claims 1-5, 10-14 and 18 be withdrawn.

35 U.S.C. §103 Rejection

Claims 6-9, 16-17, and 19-20 were rejected under 35 U.S.C. §103(a) for being unpatentable over Mild in view of the publication "A Case for Dynamic View Management" by Kotidis ("Kotidis"). This rejection is respectfully traversed.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2142. Applicants respectfully submit that the applied references do not teach or suggest all the claim limitations.

<u>Independent claims 19 and 20</u>

Independent claim 19 recites, *inter alia*,

a first component to create a master view having a master view index referencing hierarchical data;

a second component to create a subordinate view of the master view that has a subordinate view index that references a subset of said master view index, the subordinate view defines accessible data of the hierarchical data and the subordinate view index linked to a subset of the master view index ...

Independent claim 20 recites, *inter alia*,

a first computer program code to create a master view having a master index referencing the hierarchical data;

a second computer program code to create a subordinate view having a subordinate index referencing a subset of said master index, where the subordinate view defines accessible data of the hierarchical data and the subordinate view index is linked to a subset of the master view index;

a third computer program code to access the hierarchical data via the subordinate view; and

a fourth computer program code to create an index map and temporary index for linking data associated with the subordinate view to the master index.

These features are not shown or suggested by the applied art.

The Examiner asserts that claims 19 and 20 are taught by the combination of Mild and Kotidis as applied to claims 1-18. The Examiner further asserts that claims 19 and 20 are rejected using the same rationale as claims 1-18. Applicants respectfully disagree.

Applicants initially note that the statement of rejection is improper because the combination of Mild and Kotidis was not applied to claims 1-18. More particularly, claims 1-5, 10-14, and 18 were rejected under 35 U.S.C. 102 §(b) as anticipated by Mild, not by any combination of Mild and Kotidis. Thus, it is unclear which references

are being applied to claims 19 and 20. Therefore, the rejection is improper and should be withdrawn.

Moreover, Applicants submit that claims 19 and 20 contain different features from claims 1-18, and therefore, cannot be "taught by the combination of Mild and Kotidis as applied to claims 1-18" and "rejected using the same rationale as claims 1-18" as asserted by the Examiner. For example, claim 19 recites, *inter alia*, an apparatus comprising a first component, and second component, and a third component. Furthermore, claim 20 recites, *inter alia*, a computer program product including a first computer program code, a second computer program code, a third computer program code, and a fourth computer program code. Claims 1-18 do not recites these features. Therefore, the Examiner has failed to identify how the applied references teach or suggest each and every feature of claims 19 and 20, and has thus failed to establish a *prima facie* case of obviousness.

In any event, Kotidis does not compensate for the deficiencies of Mild with respect to claims 19 and 20. As discussed above, Mild does not teach or suggest a master view index and a subordinate view index that is linked to a subset of the master view index. Moreover, Mild does not teach or suggest a master view index, a subordinate view index, or an index map.

Kotidis discloses a system that manages dynamic collections of materialized aggregate views in a data warehouse. Each aggregate view is a view fragment that is stored in a view pool (pg. 392), and may be used, in whole or in part, to answer queries made by users. The system and method is concerned with answering queries to the data warehouse by using view fragments, and with dynamically updating data in the

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data warehouse and refreshing the fragments in the view pool (pg. 392-393). The view fragments, however, are not related as a master view and a subordinate view, as recited in the claimed invention. Specifically, Kotidis does not teach or suggest a master view having a master view index referencing hierarchical data, as recited in claims 19 and 20. Moreover, Kotidis does not disclose a subordinate view of the master view that has a subordinate view index that references a subset of the master view index and is linked to a subset of the master view index, as further recited in claim 19 and 20. Furthermore, Kotidis does not teach or suggest an index map and temporary index for linking data associated with the subordinate view to the master index, as recited in claim 20. Thus, the references, alone or in combination, do not teach or suggest all of the features of the claimed invention.
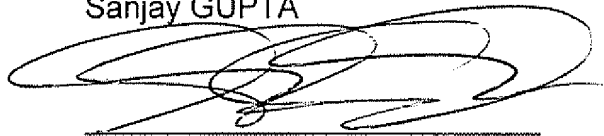
Dependent Claims 6-9, 16, and 17

Applicants respectfully submit that claims 6-9, 16 and 17 depend from an allowable independent claim, and are allowable based upon the allowability of the independent claim.

Accordingly, Applicants respectfully request that the rejection over claims 6-9, 16-17, and 19-20 be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 09-0457.

Respectfully submitted,
Sanjay GUPTA

Andrew M. Calderon
Reg. No. 38,093

May 15, 2006
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191